DRAFT

ENVIRONMENTAL ASSESSMENT

FORK HORN WHITE TAIL RANCH GAME FARM

Montana Fish, Wildlife & Parks
Region 1
490 North Meridian Road
Kalispell, Montana 59901

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INTRODUCTION

The Montana Fish, Wildlife & Parks (FWP) is required to perform an environmental analysis in accordance with the Montana Environmental Policy Act (MEPA) for each proposal for projects, programs, legislation, and other major actions of state government significantly affecting the quality of the human environment (Administrative Rules of Montana [ARM] 12.2.430). FWP uses environmental assessments (EAs) in the game farm licensing process to identify and evaluate environmental impacts of a proposed game farm. EAs also determine whether the impacts would be significant and whether, as a consequence, FWP would perform a more detailed environmental impact statement (EIS).

When preparing an EA, FWP reviews environmental impacts of the Proposed Action, impacts of the no action alternative, and impacts of other alternative actions which include recommended and/or mandatory measures to mitigate the project's impacts. A mitigated EA includes alternatives with enforceable requirements (stipulations) which reduce impacts of the Proposed Action. The EA may also recommend a preferred alternative for the FWP decision maker.

Based upon its review of the Fork Horn White Tail Ranch game farm application, FWP has prepared a mitigated EA.

OBJECTIVES

This EA has been prepared to serve the following purposes in accordance with FWP MEPA rules (ARM 12.2.430):

- to ensure that FWP uses natural and social sciences in planning and decision making;
- to be used in conjunction with other agency planning and decision-making procedures to make a determination regarding the Proposed Action;
- to assist in the evaluation of reasonable alternatives and the development of conditions, stipulations, and modifications to the Proposed Action,
- to determine the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with the Proposed Action;
- to ensure the fullest appropriate opportunity for public review and comment on the Proposed Action; and
- to examine and document the effects of the Proposed Action on the quality of the human environment.

PUBLIC PARTICIPATION

Public involvement in the EA process includes steps to identify and address public concerns. The Draft EA will be available for public review and comment from December 31, 1997 until 5 pm January 20, 1998 from the Region 1 FWP office at the address listed below. Submit all comments regarding this EA to the same address.

Mr. Chris Ralph, Game Warden
Montana Fish, Wildlife & Parks
1513 Lolo Avenue
Lolo, Montana 59923
Phone (406) 293-3381

PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

The FWP received a completed application October 21, 1997 from Mr. Harry R. Beebe to develop a new game farm referred to as the Fork Horn White Tail Ranch game farm. The proposed game farm is located in Lincoln County, near the town of Libby, Montana (**Figure 1**). The Proposed Action would include placing up to 10 white-tailed deer and 10 fawns on a 5.5 acre game farm to include a quarantine and handling facility within the game farm enclosure. The proposed game farm would be constructed in two phases. The first phase would enclose 2 white-tailed deer in a 0.5 acre pasture which includes the quarantine facility. The second phase would increase the pasture an additional 5 acres to accommodate a total of 10 white-tailed deer and up to 10 fawns. White-tailed deer stocked at the proposed game farm would originate from Montana game farms that are known to contain only western white-tailed deer.

The applicant would breed, sell, and dispose of domestic white-tailed deer in accordance with Montana game farm and disease control requirements stipulated in Montana statute and administrative rules. Fence construction would be in accordance with requirements of FWP under ARM 12.6.1503A unless a waiver is granted by FWP to construct a game-proof fence of an alternative design.

ALTERNATIVES

One alternative (No Action Alternative) is evaluated in this EA. Under the No Action Alternative, FWP would not issue a license for the Fork Horn game farm as proposed. Therefore, no game farm animals would be placed on the proposed game farm area. Implementation of the No Action Alternative would not preclude other activities allowed under local, state and federal laws to take place at the game farm site.

PURPOSE AND NEED OF THE PROPOSED ACTION

The purpose of the Proposed Action is to establish a new game farm site that would enclose domestic white-tailed deer. The Fork Horn White Tail Ranch game farm would be a commercial enterprise that would provide white-tailed deer breeding stock to the game farm market and produce trophy-class cast off antlers.

ROLE OF FWP AND DEPARTMENT OF LIVESTOCK (DoL)

FWP is the lead agency in preparing this EA for the proposed project. This document is written in accordance with the Montana Environmental Quality Council (EQC) MEPA Handbook and FWP statutory requirements for preparing an EA under Title 75, Chapter 1, Part 2 Montana Code Annotated (MCA) and FWP rules under ARM 12.2.428 et seq.

FWP shares regulatory responsibilities for new and expanding game farms with the DoL. The DoL is responsible for regulating the health, transportation and identification of game farm animals. During the application process, all quarantine area plans and specifications are submitted to the DoL for approval and inspection of the proposed quarantine facility. No licenses are issued without such approval and inspection.

AFFECTED ENVIRONMENT

The proposed Fork Horn White Tail Ranch game farm is located in the eastern foothills of the Cabinet Mountains in extreme northwestern Montana. The nearest town to the site is Libby, in Lincoln County. The current land use of the site is timber and hay production (**Figure 2**). This section summarizes the primary environmental resources in the project area.

LAND RESOURCES

The proposed Fork Horn game farm is located on a 5.5 acre site in Lincoln County, Montana, approximately 8.5 miles southwest of Libby. The site is generally located on a broad glacial outwash terrace in the Libby Creek Valley at an elevation of about 2900 feet above mean sea level. The topography of the area consists of a small, forested, north-south oriented knoll or ridge with gentle to moderate slopes on the east and west flanks that descend 30 to 40 feet to a surrounding hay field.

The general geology of the area consists of metasedimentary rocks of the middle Proterozoic age. Continental glaciation has imposed a strong expression on the landscape in this part of northwest Montana, with glacial terraces, kames, kettles, and other glacial features found in the general vicinity of the proposed game farm site.

Soils on the site have been mapped as Andic Dystrochrepts. These soils form in stratified glacial outwash deposits of sand and gravel and are present on slopes generally less than 15% in mixed forest. The surface layer is composed of yellow-brown, wind deposited loess influenced by volcanic ash. The coarse fragment content in the surface layer is high, ranging from 35 to 50% gravels and cobbles. In the subsoil, rock content can increase to greater than 50%. Susceptibility of the soil to erosion in the surface layer is considered moderate, but severe in the subsoil. Sediment hazard is rated as moderate.

WATER RESOURCES

No active drainages extend through the proposed game farm site. Libby Creek, located about 1 mile east of the game farm site, is the prominent hydrologic feature in the study area. An unnamed tributary of Libby Creek located approximately 1,000 feet east of the game farm site is the nearest perennial stream. No wetland/riparian areas or springs/seeps are located within or near the proposed game farm enclosures. Several private wells are located approximately 1 mile northeast of the game farm site near Libby Creek; another private well exists about 1 mile to the north. Stock water would be supplied to the domestic white-tailed deer from a planned well located near the game farm site; water delivered by truck would be used temporarily until the well is completed.

VEGETATION RESOURCES

The proposed game farm is primarily comprised of managed coniferous forest (5 acres) but will also extend onto cleared pasture land (0.5 acre) planted to domestic grasses. The dominant habitat at the proposed game farm site is the Douglas fir/twin flower type. This habitat is characterized by Douglas fir as a climax tree species with ponderosa pine, lodgepole pine, and larch as seral tree species. The herbaceous layer is comprised of twin flower, Oregon grape, pinegrass and elk sedge. Annual production in this layer is less than 500 pounds per acre. Pasture land and hay fields in this area are planted almost exclusively with introduced plants species such as timothy and smooth brome. Hay yield in these sites is approximately 1 ton per acre.
Figure 2

WILDLIFE RESOURCES

The general area surrounding the proposed game farm is used as winter range by wild white-tailed deer, mule deer, elk, mountain goat, and moose (**Figure 3**). Substantial numbers of moose move through this area in late fall and early winter as snow depth increases at higher elevations. In addition, some moose are yearlong residents in this area. Wild elk move into this general area in late fall from higher elevations in the Cabinet Range going to McMillan Ridge east of Libby Creek; they remain there until early spring when they return to the Cabinet Range. White-tailed deer are yearlong residents in this area using both the Libby Creek bottomlands and adjacent low elevation timber land. The number of wild deer and elk concentrating into this area during winter is dependent upon snow depth and severity of the winter. Mountain lions and black bears are relatively common, and occur in this area in numbers that are characteristic of western Montana. Black bear tend to concentrate in the general game farm area during spring.

Libby Creek in this reach does not support resident bull trout (a Federally listed threatened species) or westslope cutthroat trout (a sensitive species) populations. However, these two fish species may occur in the Creek as transient individuals. Bald eagles (a Federally listed threatened species) winter along Libby Creek but are not known to nest in the immediate vicinity of the game farm. Peregrine falcons (endangered) may be migratory through this area but they are not known to nest in this area. Although grizzly bears and gray wolves potentially pass through this area as transient individuals, small resident populations of each species are located in nearby areas. There are no other Federally listed threatened and endangered species expected to occur in this area.

ENVIRONMENTAL CONSEQUENCES

Only resources that have potential adverse effects from the Proposed Action are summarized in this section. A detailed discussion of environmental consequences is contained in *Part II* of this EA.

LAND RESOURCES

Impacts to land resources associated with the Proposed Action are expected to be minor if a reasonable stocking rate is used. Because the susceptibility of the surface layer to erosion is moderate, the soil may be able to withstand some measure of overgrazing and trampling with only moderate reductions in productivity. However, if overgrazing were to occur on the slopes along the east and west sides of the knoll, excessive removal of vegetation may result in the formation of rills or gullies, especially due to the severe erosion potential of the subsoil.

Other potential impacts to the soil resource include excessive soil compaction in areas where deer may congregate and in concentration areas used for winter feeding. Soil compaction coupled with high densities of animals can result in the typical bare ground condition common to feed lot situations. Maintaining an adequate vegetative cover should effectively mitigate this impact.

WATER RESOURCES

Increased runoff and erosion may occur locally from greater soil disturbance within the game farm enclosure. Impacts would be minor and limited to the area within and immediately surrounding the game farm site. No surface water bodies in the vicinity likely would be affected. Nutrient-enriched water from deer fecal matter may locally affect shallow groundwater during major precipitation events and snowmelt. However, the clayey glacial deposits underlying the project site would minimize potential groundwater impacts. Potential hydrologic impacts from the proposed Fork Horn game farm are considered minor and should not adversely affect water quality in the project area.

VEGETATION RESOURCES

The proposed game farm would require that conifer trees be removed from either side (approximately 20 feet) of the perimeter fence to reduce the risk of a tree falling on the fence. Trees may also be thinned to increase forage production. Intensive grazing and browsing by white-tailed deer is expected to alter the species composition of the herbaceous layer. Intensive browsing by white-tailed deer generally prevents growth and establishment of deciduous trees and shrubs. Under intensive stocking densities, it is possible that some areas of bare soil may develop and provide increased opportunity for the establishment of weeds.

WILDLIFE RESOURCES

Fencing of the proposed game farm would exclude wild deer, elk and moose from approximately 5.5 acres of forest and pasture land. This is not critical habitat and it is widely distributed elsewhere in this general area. There is a possibility that wild deer, elk or moose may enter the enclosure especially during periods of drifted snow or deep snow accumulation in the winter. Wild ungulates entering the game farm would likely be destroyed rather than released back to the wild. Mountain lions and black bears reside in the vicinity of the proposed game farm and may be attracted to the game farm due to the concentration of domestic deer or presence of grain.

Two Federally listed threatened species, the grizzly bear and gray wolf, are known to live in the general area surrounding the proposed game farm. There is a possibility that transient grizzly bears or wolves may pass by the game farm and be attracted to the confined domestic deer. Bears would also be attracted to the site by the presence of supplemental feed. Both these species would be capable of entering the enclosure and capturing deer.

There is an undetermined potential of domestic deer carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis or meningeal worm, and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk, or other wildlife. It is also possible that diseases and parasites carried by wild deer could be introduced to domestic deer with equally severe impacts. Brucellosis and tuberculosis are potentially transmittable from deer to cattle and livestock and wildlife. The risk of disease being passed from domestic deer to domestic livestock would be minimal if the fence integrity is maintained and appropriate mitigation measures are followed.

The meningeal worm is a clinically silent nematode in white-tailed deer, but when infective larvae are ingested by moose or elk, they inflict neurological damage that eventually leads to the death of the host animal. This disease is believed to be spreading westward but has not appeared in Montana. Consequently, it is extremely important that white-tailed deer to be stocked at the proposed game farm will originate from Montana game farms that are known to contain only western white-tailed deer.

CUMULATIVE EFFECTS

The Proposed Action would not result in potential impacts that are individually minor but cumulatively considerable. Cumulative effects from past, present and reasonably foreseeable activities in all resource areas would be similar to those described for the Proposed Action.

EA CONCLUSION

MEPA and game farm statutes require FWP to conduct an environmental analysis for game farm licensing as described in the Introduction of this Summary. FWP prepares EAs to determine whether a project would have a significant effect on the environment. If FWP determines that a project would have a significant impact that could not be mitigated to less than significant, the FWP would prepare a more detailed EIS before making a decision.

Based on the criteria evaluated in this EA, an EIS would not be required for the Fork Horn White Tail Ranch game farm. The appropriate level of analysis for the Proposed Action is a mitigated EA because all impacts

of the Proposed Action have been accurately identified in the EA, and all identified significant impacts would be mitigated to minor or none.

MITIGATION MEASURES

The mitigation measures described in this section address impacts identified in the EA.

REQUIRED STIPULATIONS

The following stipulations are designed to mitigate impacts identified in the EA. These stipulations are imposed to mitigate risks to wildlife posed by the proposed game farm.

(a) *Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.*

The information provided by the stipulation would help both the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. Risk to wildlife health from contact between game farm animals and wild game is potentially significant because the site would be located in an area currently utilized by wild game and the north and south perimeter fence would cross a moderately steep slope increasing the risk of wild deer or elk jumping the fence.

(b) *Provide a plan to FWP demonstrating the capacity to conduct regular inspections and to respond on a timely basis to occurrence of ingress and egress.*

The risk to wildlife from unreported ingress/egress is increased because the game farm operator will not reside on the site. The ability to inspect and respond to problems is necessary to reduce risks to wildlife by identifying and responding quickly to fence problems or ingress/egress events.

(c) *Increase fence height to nine feet to prohibit ingress/egress in locations where the perimeter fence crosses steep (30 degree) slopes. Three specific areas of the perimeter fence have been identified: approximately 50 feet along each east to west fence line where it crosses the 30 degree slope.*

The proposed game farm is primarily located on a level ridge with excellent potential for fence construction. However, a portion of the northern and southern perimeter fence will traverse a moderately steep 30 degree slope. On the steeper slope segments, fence posts should be at least 9 feet above ground level to accommodate an extra strand of wire which must be supported with a supplemental stay every eight feet. This additional strand of wire should reduce the ability of deer to take advantage of an inclined slope to jump the fence.

(d) *Ensure fence integrity throughout the game farm by removing dead or dying trees from either side of the perimeter fence and conducting frequent inspections.*

The proposed game farm and adjacent areas contain numerous large coniferous trees capable of damaging the fence should a tree be blown over. Dead or dying trees should be removed from 10-20 feet on either side of the perimeter fence to reduce the probability of a tree falling on the fence during periods of high winds. Timely inspections following storm events will further reduce the potential for ingress or egress resulting from fallen trees.

(e) *Adjustments in fence design or removal of snow may be necessary to maintain a minimum eight foot perimeter game-proof fence.*

The proposed enclosure site is located at an elevation of about 2,900 feet and the expected snow levels during normal winters would be about 18 inches. However, during extreme winters, snow accumulations can reach 4 feet. The proposed game farm has only low potential for drifting during blizzards due to its sheltered location and the lack of adjacent large open areas. The development of significant drifts will be dependent upon storm characteristics and topography. Under these extreme conditions, the height of the fence above the compacted snow level may be sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access of supplemental feed. Domestic deer may also be able to leave the enclosure during periods of excessive snow cover. Removal of accumulated snow from the either side of the fence in drifted areas or increased fence height would be necessary during severe winters.

RECOMMENDED MITIGATION MEASURES:

The following mitigation measures address minor impacts identified in the EA that are likely to result from the Proposed Action.

Land Resources

Maintain a reasonable stocking rate within the game farm enclosures to minimize changes in soil structure, minimize potential increases in runoff and minimize water and wind erosion from disturbed ground. A "reasonable stocking rate" is defined under *EA Definitions*, under Part II of the Environmental Review.

Air Resources

Employ the following mitigation measures to reduce odor problems if they occur:

- Create a buffer zone between waste management areas and neighbors considering wind direction and timing when moving waste.
- If waste is land-applied, incorporate waste into soil quickly by plowing or discing and spread waste during cool weather or in the morning during warm, dry weather.
- Carcasses of animals buried on the game farm must be covered with a minimum of 2 feet of soil. Carcasses may also be sent to a licensed municipal landfill if approved by the landfill operator. Carcasses can not be disposed of in water bodies, roads, or ditches.

Water Resources

Employ the following mitigation measures to reduce impacts to water resources if they occur:

- Minimize stock traffic in saturated soil areas, if they develop, during the spring when groundwater and surface water levels are highest. Maintain a reasonable stocking rate for deer in the proposed game farm area to mitigate some of the potential erosion and sedimentation impacts. Other water quality impacts could be minimized by moving dead animals and excess fecal material to an approved site that is more isolated from surface water and groundwater (e.g., on top of ridge).
- Control surface water runoff discharges from the game farm site, if they occur, by employing best management practices (BMPs) along the fence line. The BMPs may include earth berms, straw bale dikes, vegetative buffer zones, and/or silt fences.

Vegetation Resources

Employ the following mitigation measure to reduce impacts to vegetation:

- Supplemental feed should be provided to the deer on a year-long basis to reduce the probability of overgrazing the herbaceous layer.

Fish and Wildlife Resources

The following standard game farm management practices would help minimize impacts to free ranging wildlife and fish species:

- Store hay, feed, and salt away from exterior fences or enclosed in bear-resistant containers or buildings.
- Feed game farm animals at interior portions of the enclosure and not along the perimeter fence.
- Remove dead animals, excess fecal material, and waste feed from the game farm and place at an approved site not likely to be used by humans, and domestic animals and wild animals.
- Inspect the exterior game farm fence on a regular basis and immediately after events likely to damage the fence to insure its integrity with respect to trees, burrowing animals, predators and other game animals.
- If fence integrity or ingress/egress becomes a problem, adjustment of fence requirements to include double fencing or increased height may become necessary.
- Mitigate corrosion of perimeter fence structures by using noncorrosive fencing materials.
- Risk of disease epidemic or heavy parasite infections among domestic deer can be minimized by maintaining a reasonable domestic deer stocking rate in relation to the enclosure size, periodic removal of domestic deer manure from concentration areas, and development of a disease immunization and parasite treatment protocol as applicable to domestic deer. For the purposes of this EA, a "reasonable stocking rate" is defined under *EA Definitions*, Part II.

Noise

Minimize impacts to neighbors from construction noise by limiting noisy activities to daylight hours and completing construction as soon as possible.

Cultural Resources

Mitigate impacts to cultural resources by stopping work in the area of any observed archeological artifact. Report discovery of historical objects to:

Montana Historical Society
Historic Preservation Office
1410 8th Avenue; P.O. Box 201202
Helena, Montana 59620
(406) 444-7715.

If work stoppage in the area containing observed artifacts is not possible, record the location and position of each object, take pictures and preserve the artifact(s).

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PART I. GAME FARM LICENSE APPLICATION

ENVIRONMENTAL ASSESSMENT CHECKLIST

Montana Fish, Wildlife & Park's authority to regulate game farms is contained in sections 87-4-406 through 87-4-424, MCA and ARM 12.6.1501 through 12.6.1519.

1. **Name of Project:** Fork Horn White Tail Ranch Game Farm

   Date of Acceptance of Completed Application: October 21, 1997

2. **Name, Address and Phone Number of Applicant(s):**

   Harry R. Beebe
   5800 Champion Haul Road
   Libby, Montana 59923

   (406) 293-6558

3. **If Applicable:**

   Estimated Construction/Commencement Date: September 16, 1997

   Estimated Completion Date: July 30, 1998

   Is this an application for expansion of existing facility or is a future expansion contemplated?

   This is an application for a new facility.

4. **Location Affected by Proposed Action (county, range and township):**
   Lincoln County
   SE¼ of SE¼ of SW¼ of NE¼ of Section 25
   Township 29 North, Range 31 West

5. **Project Size:** Estimate the number of acres that would be directly affected that are currently:

   (a) Developed:
   residential....._____ acres
   industrial....._____ acres

   (b) Open Space/Woodlands/Areas....____ acres

   (c) Wetlands/Riparian Areas..... _____ acres

   (d) Floodplain..._____ acres

   (e) Productive:
   irrigated cropland._____ acres
   dry cropland....._____ acres
   forestry..... 5.0 _____ acres
   rangeland..... 0.5 ____ acres
   other....._____ acres

6. **Map/site plan:**

The following maps are included in the introductory summary of this EA:

Figure 1: Site Map Showing Land Ownership
Figure 2: Site Map Showing Land Use and Land Cover
Figure 3: Site Map Showing Big Game Winter Range

7. **Narrative Summary of the Proposed Action or Project including the Benefits and Purpose of the Proposed Action:**

The FWP received a completed application October 21, 1997 to develop a new game farm referred to as the Fork Horn White Tail Ranch game farm. The proposed game farm is located in Lincoln County, near the town of Libby, Montana (**Figure 1**). The Proposed Action consists of placing up to 10 white-tailed deer and 10 fawns on 5.5 acres to include a quarantine and handling facility within the game farm enclosure. The proposed game farm would be constructed in two phases. The first phase would enclosure 2 white-tailed deer in a 0.5 acre pasture which included the quarantine facility. The second phase would increase the pasture an additional 5 acres to accommodate a total of 10 white-tailed deer with up to 10 fawns. White-tailed deer stocked at the proposed game farm would originate from Montana game farms that are known to contain only western white-tailed deer.

The applicant proposes to construct a perimeter fence consisting of 8-foot high, 6-inch mesh, high-tensile big game fence supported by 12-foot long, 3-inch diameter steel pipe set 3.5 feet into the soil and spaced at 18-foot intervals. Exterior gates will consist of two 4 x 12 foot heavy duty steel livestock gates mounted one atop the other with each gate being faced with 6 inch mesh hog panels.

The proposed game farm property is leased by Harry R. Beebe for a period of 25 years from his parents, John L. and Mable L. Beebe. Harry Beebe has experience cattle ranching and raised Australian Emus for several years. The applicant would not reside on the site; however, family members live within ½-mile of the proposed game farm. The proposed game farm would be a commercial enterprise that would provide white-tailed deer breeding stock to the game farm market and produce trophy-class cast off antlers. The applicant would breed, sell, and dispose of domestic white-tailed deer in accordance with Montana game farm and disease control requirements stipulated in Montana statute and administrative rules. No fee trophy shooting will be conducted on the game farm.

8. **Listing of any other Local, State or Federal agency that has overlapping or additional jurisdiction:**

(a) Permits:

Agency Name	Permit	Approval Date and Number
Department of Livestock	approval of quarantine and handling facility	Pending

(b) Funding:

Agency Name	Funding Amount
none	

(c) Other Overlapping or Additional Jurisdictional Responsibilities:

Agency Name	Type of Responsibility
Montana Department of Livestock	disease control
Montana Department of Environmental Quality (DEQ)	water quality, air quality waste management
Montana State Historical Preservation Office (SHPO)	cultural resources
Montana Department of Natural Resources and Conservation (DNRC)	water rights
Natural Resource Conservation Service (NRCS)	soil conservation
Lincoln County Weed Control District	weed control
Lincoln County Planning Department	landuse planning
Tobacco Valley Improvement Association	landuse planning

9. List of Agencies Consulted During Preparation of the EA:

Montana Department of Livestock

Montana Department of Environmental Quality

Montana State Historical Preservation Office

Montana Bureau of Mines and Geology

Montana Department of Natural Resources and Conservation

U.S. Department of Agriculture, Natural Resource Conservation Service

U.S. Forest Service

REFERENCES:

Beebe, Harry. 1997. Application For A New Game Farm completed September 16, 1997; Fork Horn White Tail Ranch, 5800 Champion Haul Road, Libby, Montana 59923.

PART II. ENVIRONMENTAL REVIEW

This section of the EA presents results of an environmental review of the Proposed Action. The assessment evaluated direct and indirect impacts and cumulative effects of the Proposed Action on the following resources of the physical environment: land, air, water, vegetation, fish and wildlife; and the following concerns of the human environment: noise, land use, human health risk, community impacts, public services and taxes, aesthetics and recreation, and cultural and historical resources. Impacts were determined to fall in one of four categories: unknown, none, minor and significant. For the purposes of this EA, and in accordance with ARM 12.2.429 through 12.2. 431, these terms are defined as follows:

EA DEFINITIONS

Cumulative Effects: The collective impacts on the human environment of the Proposed Action when considered in conjunction with other past and present actions related to the Proposed Action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impacts statement evaluation, or permit processing procedures.

Unknown Impacts: Information is not available to facilitate a reasonable prediction of potential impacts. By definition, unknown impacts are considered minor.

Significant Impacts: A determination of significance of an impact in this EA is based on individual and cumulative impacts from the Proposed Action. If the Proposed Action results in significant impacts that can not be effectively mitigated, FWP must prepare an EIS. The following criteria are considered in determining the significance of each impact on the quality of the human environment:

- severity, duration, geographic extent and frequency of occurrence of the impact;
- probability that the impact would occur if the Proposed Action occurs;
- growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative effects;
- quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources or values;
- importance to the state and to society of each environmental resource or value that would be affected;
- any precedent that would be set as a result of an impact of the Proposed Action that would commit FWP to future actions with significant impacts or a decision in principle about such future actions; and
- potential conflict with local, state, or federal laws, requirements, or formal plans.

Reasonable Stocking Rate: The density of animals appropriate to maintain vegetative cover in pasture condition that minimizes soil erosion from major precipitation events and snowmelt. The methodology for determining reasonable stocking rate is presented under the evaluation for *Vegetation Resources*, in the Checklist EA of this document.

PHYSICAL ENVIRONMENT

1. LAND RESOURCES Would the Proposed Action result in:	POTENTIAL IMPACT UNKNOWN	NONE	MINOR	SIGNIFICANT	CAN IMPACT BE MITIGATED	COMMENT INDEX
a. Soil instability or changes in geologic substructure?						
b. Disruption, displacement, erosion, compaction, moisture loss, or over-covering of soil which would reduce productivity or fertility?					Yes	1(b)
c. Destruction, covering or modification of any unique geologic or physical features?						
d. Changes in siltation, deposition or erosion patterns that may modify the channel of a river or stream or the bed or shore of a lake?						

AFFECTED ENVIRONMENT:

The proposed Fork Horn White Tail Ranch game farm is located on a 5.5 acre site in Lincoln County, Montana, approximately 8.5 miles southwest of Libby. The site is generally located on a broad glacial outwash terrace in the Libby Creek Valley at an elevation of about 2900 feet above mean sea level. The topography of the area consists of a small, forested, north-south oriented knoll with gentle to moderate slopes on the east and west flanks that descend 30 to 40 feet to a surrounding hay field. The current land use of the site is timber and hay production.

Geology and soils information for the site is available from a publication titled *Soil Survey of the Kootenai National Forest Area, Montana and Idaho* (U.S. Department of Agriculture 1995) The general geology of the area consists of metasedimentary rocks of the middle Proterozoic age (U.S. Geological Survey 1955; Veseth and Montagne 1980). Continental glaciation has imposed a strong expression on the landscape in this part of northwest Montana, with glacial terraces, kames, kettles, and other glacial features found in the general vicinity of the proposed site. Soils on the site have been mapped as Andic Dystrochrepts that form in stratified glacial outwash deposits of sand and gravel (USDA 1995).

The soil map unit Andic Dystrochrepts, glacial outwash, is present on slopes generally less than 15% in mixed forest. The surface layer is composed of yellow-brown, wind deposited loess and influenced by volcanic ash. The coarse fragment content in the surface layer is high, ranging from 35 to 50% gravels and cobbles. In the subsoil, rock content can increase to greater than 50%. Susceptibility of the soil to erosion in the surface layer is considered moderate but severe in the subsoil (USDA 1995). Sediment hazard is rated as moderate (USDA 1995).

PROPOSED ACTION:

1(b) Impacts to land resources associated with the Proposed Action are expected to be minor if a reasonable stocking rate is used. Because the susceptibility of the surface layer to erosion is moderate, the soil may be able to withstand some measure of overgrazing and trampling with only moderate reductions in productivity. However, if overgrazing were to occur on the slopes along the east and west sides of the knoll, excessive removal of vegetation may result in the formation of rills or gullies, especially due to the severe erosion potential of the subsoil.

Other potential impacts to the soil resource include excessive soil compaction in areas where deer may congregate and in concentration areas used for feeding. Soil compaction coupled with high densities of animals can result in the typical bare ground condition common to feed lot situations. Maintaining an adequate vegetative cover should effectively mitigate this impact.

NO ACTION:

The No Action Alternative would not affect the current condition of the property if the owners continue to use the property as they do now.

CUMULATIVE EFFECTS:

As the area surrounding the proposed site is used for agricultural and timber production, the cumulative effect of using the proposed area as a game farm is negligible. The proposed game farm does not contain any unique or significant soil or land resources.

COMMENTS:

Required Stipulations: None

Recommended Mitigation Measures:

Maintain a reasonable stocking rate within the game farm enclosures to minimize changes in soil structure, minimize potential increases in runoff, and minimize water and wind erosion from disturbed ground.

REFERENCES:

U.S. Department of Agriculture, Forest Service and Natural Resource Conservation Service. 1995. Soil Survey of the Kootenai National Forest Area, Montana and Idaho. Published in cooperation with the Montana Agricultural Experiment Station, 122 pages with map sheets.

U.S. Geologic Survey and Montana Bureau of Mines and Geology, 1955. Geologic Map of Montana, 1:500,000.

Veseth, Roger and Clifford Montagne. 1980. Geologic Parent Materials of Montana Soils. Montana Agricultural Experiment Station, Bulletin 721, Montana State University, Bozeman, and USDA Soil Conservation Service, Bozeman, Montana, November. 115 pages.

PHYSICAL ENVIRONMENT

2. AIR Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Emission of air pollutants or deterioration of ambient air quality?					Yes	2(a)
b. Creation of objectionable odors?					Yes	2(b)
c. Alteration of air movement, moisture, or temperature patterns or any change in climate, either locally or regionally?						
d. Adverse effects on vegetation, including crops, due to increased emissions of pollutants?						

AFFECTED ENVIRONMENT:

The proposed game farm site is situated in an area currently used for timber and hay production. This area is sparely populated with no apparent air quality problems. This area is not classified for air quality attainment status (Cain 1997).

PROPOSED ACTION:

2(a) Impacts to air quality from fence construction and road use may result in short-term minor increases in particulate matter in ambient air.

2(b) Odor problems may result from waste management practices in areas where deer concentrate to feed. The nearest residents live approximately ½-mile from the proposed game farm site.

NO ACTION:

No impacts to air quality are expected to result from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Dust and odor are not expected to be of significant concern at the proposed game farm site due to the sparse population in this area. If dust and/or odor problems arise, mitigation measures can be implemented.

Required Stipulations: None.

Recommended Mitigation Measures:

- Dust management activities include spraying water on unpaved roads during the dry season, vegetating exposed ground where possible, protecting fill piles from wind erosion, and limiting ground disturbance to only the area necessary to complete the job.

- Employ the following best management practices (BMPs) to reduce odor problems if they occur: (1) incorporate waste into soil quickly by plowing or discing; (2) spread waste during cool weather or in the morning during warm, dry weather; and (3) cover buried animal carcasses on the game farm with a minimum of 2 feet of soil and at a distance greater than 1-mile from any residence; carcasses may also be sent to a licensed municipal landfill if approved by the landfill operator; carcasses should not be disposed of in or adjacent to water bodies, roads, and ditches. These and other BMPs are described in "Guide to Animal Waste Management and Water Quality Protection in Montana" (DEQ 1996).

REFERENCES:

Cain, Cyra, 1997. Personal communication with Ms. Cyra Cain, Air Quality Bureau, Montana Department of Environmental Quality. November 1997.

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

PHYSICAL ENVIRONMENT

3. WATER Would the Proposed Action result in:	POTENTIAL IMPACT UNKNOWN	NONE	MINOR	SIGNIFICANT	CAN IMPACT BE MITIGATED	COMMENT INDEX
a. Discharge into surface water or any alteration of surface water quality including but not limited to temperature, dissolved oxygen or turbidity?						
b. Changes in drainage patterns or the rate and amount of surface runoff?					Yes	3(b)
c. Alteration of the course or magnitude of flood water or other flows?						
d. Changes in the amount of surface water in any water body or creation of a new water body?						
e. Exposure of people or property to water related hazards such as flooding?						
f. Changes in the quality of groundwater?					Yes	3(f)
g. Changes in the quantity of groundwater?						
h. Increase in risk of contamination of surface or groundwater?					Yes	3(f)
i. Violation of the Montana non-degradation statute?						
j. Effects on any existing water right or reservation?						
k. Effects on other water users as a result of any alteration in surface or groundwater quality?						
l. Effects on other water users as a result of any alteration in surface or groundwater quantity?						

AFFECTED ENVIRONMENT:

The proposed Fork Horn White Tail Ranch game farm area is located in the Libby Creek valley on a bench between Libby Creek and Getner Creek (**Figure 2**). Libby Creek is approximately 1 mile east of the game farm site and flows north to the Kootenai River. Getner Creek is about ½ mile west of the game farm area. The nearest perennial stream to the game farm site is an unnamed tributary of Libby Creek located about 1,000 feet to the east. Double-N Lake (or Lee Lake) exists approximately ½ mile northwest of the game farm site. The project site is not located within the 100-year floodplain of Libby Creek or Getner Creek (Federal Emergency Management Agency [FEMA] 1980).

The proposed game farm area is located on a small knoll or ridge that extends north-south above the surrounding flat pasture land. This ridge is about 120 to 150 feet wide on top with gentle to moderate slopes on the east and west sides. The site is underlain by Quaternary-age glacial till that consists of heterogeneous clayey sediments (Johns 1959).

Surface water drainage from the study area moves toward Libby Creek; however, there is no evidence of surface water drainage occurring in the proposed game farm area. Any surface water that may drain from the game farm site apparently infiltrates into the surrounding flat pasture land. One surface water right is listed with the Montana Department of Natural Resources and Conservation (DNRC 1997) for a tributary of Libby Creek within ¼-mile of the proposed game farm site. The owner of this water right is part of the applicant's family (John Beebe Family Partnership).

No springs, seeps, or wetlands were identified in the proposed game farm area. Several private wells are located approximately 1 mile northeast of the game farm site near Libby Creek; most of these wells are less than 100 feet deep and likely are completed in alluvium associated with Libby Creek (Montana Bureau of Mines and Geology [MBMG] 1997). Depth to water in some of these wells is less than 20 feet. Another well located approximately 1 mile north of the game farm is 762 feet deep and likely is completed in the glacial deposits; depth to water in this well is 85 feet (MBMG 1997). The applicant proposes to drill a groundwater supply well near the outside perimeter of the game farm site; however, this well has not been drilled. Water would be supplied to the domestic deer temporarily from a truck with water tank.

PROPOSED ACTION:

3(b) Increased runoff and erosion from greater soil disturbance with the game farm enclosure may occur from the domestic deer, especially if stock numbers are high. Runoff from the 5.5-acre area likely would not reach Libby Creek or any other drainages because of the relatively flat pasture land that surrounds the game farm site; this land would provide for infiltration of runoff water near the game farm site. Due to the small area considered for the proposed expansion area, any impacts that would occur due to increased erosion and runoff are considered to be minor.

If the vegetative cover is reduced significantly, the game farm operation could meet the definition of an "animal feeding operation" (ARM 17.30.1304(3)). If water containment structures are needed on the project site to control runoff and do not have the capacity for the 25-year, 24-hour storm, a "concentrated animal feeding operations" (CAFO) permit must be obtained to permit the discharge. A CAFO permit, however, is not expected to be required for the proposed Fork Horn game farm operation.

3(f) Domestic deer fecal matter and nutrient-enriched water could have a minor effect on the quality of groundwater in the vicinity of the game farm, primarily during periods of snowmelt and major precipitation events. The expected shallow water table in at least portions of the proposed game farm area would allow groundwater to be susceptible to quality impacts from the deer fecal matter (e.g., elevated nutrient levels). The clayey glacial deposits that underlie the game farm site, however, would likely prevent any significant downward movement of impacted water.

NO ACTION:

Current hydrologic conditions are not expected to change under the No Action Alternative.

CUMULATIVE EFFECTS:

Utilization of this 5.5-acre site for a game farm would not cause any cumulative effects on water resources in conjunction with other activities or projects in the area.

COMMENTS:

Required Stipulations: None.

Recommended Mitigation Measures:

Due to potential minor impacts identified above from increased erosion, runoff, and deer fecal matter, several mitigation measures are recommended.

- Minimize stock traffic in saturated soil areas, if they develop, during the spring when groundwater and surface water levels are highest.

- Maintain a reasonable stocking rate (see definition under EA Definitions, *Part II - Environmental Review*) in the proposed game farm area to mitigate potential impacts from erosion and fecal matter. Potential water quality impacts also could be minimized by disposing dead animals and excess fecal material at a site that is isolated from surface water and groundwater (disposal must meet county regulations for solid waste).

- Control surface water runoff discharges away from the game farm site, if they occur, by employing best management practices (BMPs) along the fence line where surface water could enter the topographically low areas. The BMPs may include an earth berms, straw bale dikes, vegetative buffer zones, and/or silt fences.

REFERENCES:

Federal Emergency Management Agency (FEMA), 1980. FIRM Flood Insurance Rate Map, Lincoln County, Montana (unincorporated areas). Panel 765 of 1100. Community Panel Number 300157-0765-B. August 1, 1980.

Johns, W.M., 1959. Progress Report on Geologic Investigations in the Kootenai-Flathead Area, Northwest Montana. Montana Bureau of Mines and Geology, Bulletin 12. July 1959.

Montana Bureau of Mines and Geology (MBMG), 1997. Computer File Search of Driller's Well Logs. Butte MBMG office. November 1997.

Montana Department of Environmental Quality (DEQ), 1996. Guide to Animal Waste Management and Water Quality Protection in Montana. Helena, MT.

Montana Department of Health and Environmental Sciences (DHES), 1994. Common Sense and Water Quality, A Handbook for Livestock Producers. Water Quality Division. Helena, MT.

Montana Department of Natural Resources and Conservation (DNRC), 1997. Computer File Search of Water Rights. Helena DNRC field office. November 1997.

PHYSICAL ENVIRONMENT

4. VEGETATION Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Changes in the diversity, productivity or abundance of plant species?					Yes	4(a)
b. Alteration of a plant community?					Yes	4(b)
c. Adverse effects on any unique, rare, threatened, or endangered species?						
d. Reduction in acreage or productivity of any agricultural land?						
e. Establishment or spread of noxious weeds?					Yes	4(e)

AFFECTED ENVIRONMENT:

The proposed game farm is located on a low ridge on bench land along Libby Creek. The proposed game farm is primarily comprised of managed coniferous forest (5 acres) but will also extend onto cleared pasture land (0.5 acres) planted to introduced grasses. The dominant habitat at the proposed game farm site is the Douglas fir/twin flower type. This habitat is characterized by Douglas fir as a climax tree species with ponderosa pine, lodgepole pine, and larch as seral tree species. The herbaceous layer is comprised of twin flower, Oregon grape, pinegrass and elk sedge, with annual production less than 500 pounds per acre. Pasture land and hay fields in this area are planted almost exclusively with introduced plants species such as timothy and smooth brome. Hay yield in these sites is approximately one ton per acre.

PROPOSED ACTION:

4(a) Conifer trees near the perimeter fence are a risk to fence integrity from tree falls. Intensive grazing and browsing by white-tailed deer is expected to alter the species composition of the herbaceous layer. Intensive browsing by white-tailed deer generally prevents growth and establishment of deciduous trees and shrubs, thus the enclosed area will also be more prone to noxious weed invasion.

4(b) The proposed game farm would alter both the overstory and understory plant communities within the 5.5-acre enclosure. Overall, the alteration of these plant communities would be relatively minor due to the limited size of the proposed game farm.

The relatively high stocking rate (2 deer/acre) would likely exceed the productive potential of the enclosure. An estimated 3,500 pounds of forage may be produced within the enclosure on an annual basis while 10 deer would be estimated to consume about 12,775 pounds of forage on an annual basis. Substantial supplemental feed will be required to maintain 10 deer at the proposed game farm. Over an extended period, productivity of this site would be expected to decrease due to intensive grazing and browsing by domestic deer.

4(e) The proposed game farm site contains a very few weeds and is currently dominated by native vegetation or tame pasture grasses purposely planted in this area. A few mullein plants were the only weeds observed at the proposed game farm. Under the intensive stocking densities proposed for this game farm, it is possible that some areas of bare soil may develop and provide increased opportunity for the establishment of weeds.

NO ACTION:

The No Action Alternative would likely result in the continuation of the present management. Cattle would be grazed on pasture land, hay would be harvested from cropland, and forested areas would be managed for timber production.

CUMULATIVE EFFECTS:

Utilization of this 5.5-acre site for a game farm would not significantly change agricultural production or timber harvest in this area.

COMMENTS:

The following stipulation is designed to mitigate vegetation impacts identified in the EA and protect fence integrity.

Required Stipulation:

Ensure fence integrity throughout the game farm by removing dead or dying trees on either side of the perimeter fence that threaten fence integrity.

The proposed game farm and adjacent areas contain numerous large coniferous trees capable of damaging the fence should a tree be blown over. Trees should be removed on either side of the perimeter fence to reduce the probability of a tree falling on the fence during periods of high winds.

Recommended Mitigation Measures:

Supplemental feed should be provided to the deer on a year-long basis to reduce the probability of overgrazing the herbaceous layer.

REFERENCES:

Pfister, R., B.L. Kovalchick, S.F. Arno, and R.C. Presby. 1977. Forest habitats of Montana. Intermountain Forest and Range Experiment Station. USDA Forest Service. Ogden, UT.

PHYSICAL ENVIRONMENT

5. FISH/WILDLIFE Would the Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Deterioration of critical fish or wildlife habitat?					Yes	5(a)
b. Changes in the diversity or abundance of game species?					Yes	5(b)
c. Changes in the diversity or abundance of nongame species?						
d. Introduction of new species into an area?						
e. Creation of a barrier to the migration or movement of animals?					Yes	5(e)
f. Adverse effects on any unique, rare, threatened, or endangered species?					Yes	5(f)
g. Increase in conditions that stress wildlife populations or limit abundance (including harassment, legal or illegal harvest or other human activity)?						
h. Increased risk of contact between game farm animals and wild game?					Yes	5(h)
i. Increased risk to wildlife health from disease?					Yes	5(h)

AFFECTED ENVIRONMENT:

The proposed game farm is located on the eastern foothills of the Cabinet Mountains in extreme northwestern Montana. The vegetation in this general area consists of dense stands of ponderosa pine, lodgepole pine, Douglas fir, and larch. Valley bottoms have been mostly cleared of timber and planted to tame pasture grasses, and are used for hay production or pasture land. The proposed game farm would be comprised of approximately 5 acres of managed timber and 0.5 acres of pasture land (**Figure 2**). The proposed game farm would be situated primarily on the upper portion of a low ridge, but extends down a moderately steep 30 degree slope, to a valley bottom.

The general area surrounding the existing game farm is used as winter range by wild white-tailed deer, mule deer, elk, mountain goat, and moose. However, the proposed game farm only lies within moose winter range (**Figure 3**). Substantial numbers of moose move through this area in late fall and early winter as snow depth increases at higher elevations. In addition, some moose are yearlong residents in this area. Due to the extensive forest cover in this area exact numbers of big game species using this general area are unknown. Wild elk move into this general area in late fall from higher elevations in the Cabinet Range going to McMillan Ridge east of Libby Creek; they remain there until early spring when they return to the Cabinet Range. White-tailed deer are yearlong residents in this area using both the Libby Creek bottomlands and adjacent low elevation timber land. During severe winters, they tend to winter on McMillan Ridge. The number of wild deer and elk concentrating into this area during winter is dependent upon snow depth and severity of the winter. Mountain goats reside in the Cabinet Range but they winter west of Bear Creek about 5 miles west of the proposed game farm. Mountain lions and black bears are relatively common, and occur in this area in numbers that are characteristic of western Montana. Black bear tend to concentrate in the general game farm area during spring (Brown 1997).

Libby Creek in this reach does not support resident bull trout (a Federally listed threatened species) or westslope cutthroat trout (a sensitive species) populations. However, these two fish species may occur in the

Creek as transient individuals. Bald eagles (a Federally listed threatened species) winter along the Libby Creek but are not known to nest in the immediate vicinity of the game farm. In general, the proposed game farm is located sufficiently far from Libby Creek that the above species are not a concern with the game farm operation. Peregrine falcons (endangered) may be migratory through this area but they are not known to nest in this area. Although grizzly bears and gray wolves potentially pass through this area as transient individuals, small resident populations of each species are located in nearby areas. A small number of grizzly bears live in the Cabinet Mountains and two wolf packs use nearby areas. The Thompson River wolf pack resides in an area east of the site and a second wolf pack uses an area about 50 miles northeast of the proposed game farm (Brown 1997). There are no other Federally listed threatened and endangered species expected to occur in this area.

PROPOSED ACTION:

5(a) The Proposed Action plans to develop a 0.5-acre holding pasture and quarantine facility, and a 5-acre pasture. The projected herd size is 10 adult white-tailed deer (5 males and 5 females) and births each year for a peak number of 20 game farm animals. Fencing of the proposed game farm would exclude wild deer, elk and moose from approximately 5.5 acres of forest and pasture land. This is not critical habitat and it is widely distributed elsewhere in this general area. This loss is not considered significant.

Some nutrient enriched water runoff (effluents) during snow melt and major storm events may occur at this site due to the heavy stocking rate of domestic deer and the moderate slope on a portion of the proposed game farm. However, nearly all runoff will enter the nearly level pasture land allowing time for water infiltration, sediment filtration, and nutrient absorption into the soil. No perennial streams are located adjacent to the proposed game farm and water quality in Libby Creek is not expected to be impacted. There would be no expected impacts to aquatic systems in this area resulting from the proposed game farm operation.

5(b) There is a possibility that wild deer, elk or moose may enter the enclosure especially during periods of drifted snow or deep snow accumulation in the winter. Although the proposed game farm does not occur within designation deer and elk winter range, individual wild deer and elk would be expected to pass through the area during winter. Wild ungulates entering the game farm and subsequently exposed to domestic deer would likely be destroyed rather than released back to the wild. This may affect individuals but not populations. Mountain lions and black bears reside in the vicinity of the proposed game farm and may be attracted to the game farm due to the concentration of domestic deer or presence of grain. Lions are capable of entering the enclosure and black bears have also been documented to enter game farms to feed on grain. Although live capture and removal of lions and bears is possible, it is not without risks. This may affect individuals but not populations.

5(e) The proposed 5.5 acre enclosure may alter the daily movement of some wild deer, elk, and moose forcing them to walk a few hundred feet extra to get around the exterior enclosure fence. However, the proposed game farm is sufficiently small that it will have minimal affect on the few wild ungulates with home ranges that include the proposed game farm. Overall, the proposed game farm would probably not influence movement of wild deer, elk and moose beyond the existing conditions.

5(f) Two Federally listed threatened species, the grizzly bear and gray wolf, are known to live in the general area surrounding the proposed game farm. There is a possibility that transient grizzly bears or wolves may pass by the game farm and be attracted to the confined domestic deer. Bears would also be attracted to the site by the presence of supplemental feed. Both these species would be capable of entering the enclosure and capturing deer. Although live capture and removal of bears and wolves is possible, it is not without risks. This may affect individuals but not populations.

5(h) There is an undetermined potential of domestic deer carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis or meningeal worm, and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk, or other wildlife. It is also possible that diseases and parasites carried by wild deer could be introduced to domestic deer with equally severe impacts. Ingress of wild deer or elk would likely result in the destruction of the

trespassing animals. Spread of a contagious wildlife disease may directly or indirectly (depending upon the nature of the disease) effect the human environment by reducing the number of wild deer and elk available for hunting or exposing hunters to diseases that are contagious to humans as well. Although release of a contagious disease in the wild could severely impact native wildlife populations, the risk of disease transmission from domestic deer to wild deer can be minimized by routine disease surveillance of the herd.

White-tailed deer are a common host to the meningeal worm (*Parelaphostrongylus tenuis*) over much of their range in eastern and central United States and Canada. The meningeal worm is a clinically silent nematode in white-tailed deer, but when infective larvae are ingested by moose or elk, they inflict neurological damage that eventually leads to the death of the host animal. Meningeal worm has been shown to substantially reduce moose populations in areas where infected white-tailed deer numbers are increasing. This disease is believed to be spreading westward but has not appeared in Montana. Consequently, it is extremely important that white-tailed deer to be stocked at the proposed game farm will originate from Montana game farms that are known to contain only western white-tailed deer. White-tailed deer may not be imported into Montana until an effective test for meningeal worm is approved.

Brucellosis and tuberculosis are potentially transmittable from deer to cattle and livestock and wildlife. The risk of disease being passed from domestic deer to domestic livestock would be minimal if the fence integrity is maintained and appropriate mitigation measures are followed. The potential for disease transmission to domestic livestock and wildlife from game farm animals can also be mitigated through Department of Livestock disease testing requirements. All animals placed on this game farm would be required to be tested for tuberculosis at the time of import, purchase and/or transportation to the game farm. A test for brucellosis is required for all Cervids that are sold or moved within the state, and is required for all game farm animals imported into Montana. Each game farm is required to have an isolation pen (quarantine facility) on the game farm to isolate any animals that are imported or become ill. The state veterinarian can require additional testing and place herds under strict quarantine should problems arise. Routine brucellosis and tuberculosis testing requirements for game farm animals offer a measure of surveillance that minimize these risks. Failure to comply with these requirements is grounds for license revocation.

NO ACTION:

No additional wildlife related impacts beyond those of the existing conditions are expected to occur under the No Action Alternative. Under the existing conditions, the timbered ridge would continued to grazed by cattle and be managed for timber production. The hay fields and pasture land would be managed for hay production and livestock grazing. Some use of the proposed game farm site by wild deer, elk, and moose would be expected.

CUMULATIVE EFFECTS:

The fencing of 5.5 acres of land used seasonally by wild mule and white-tailed deer, elk and moose would result in a few individuals of these species being excluded from a from a small area of their home ranges. Cumulative effects of losing this small area of habitat would be expected to be minor because the area does not represent critical habitat. In addition, the timbered habitat occurring at the proposed game farm site is widely distributed and abundant in this general area.

COMMENTS:

The following stipulations are designed to mitigate impacts identified in the EA. These stipulations are imposed to mitigate risks to wildlife posed by the proposed game farm.

Required Stipulations:

(a) Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.

The information provided by the stipulation would help both the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. Risk to wildlife health from contact between game farm animals and wild game is potentially significant because the site would be located in an area currently utilized by wild game and the north and south perimeter fence would cross a moderately steep slope increasing the risk of wild deer or elk jumping the fence.

(b) Provide a plan to FWP demonstrating the capacity to conduct regular inspections and to respond on a timely basis to occurrence of ingress and egress.

The risk to wildlife from unreported ingress/egress is increased because the game farm operator will not reside on the site. The ability to inspect and respond to problems is necessary to reduce risks to wildlife by identifying and responding quickly to fence problems or ingress/egress events.

(c) Increase fence height to nine feet to prohibit ingress/egress in locations where the perimeter fence crosses steep (30 degree) slopes. Three specific areas of the perimeter fence have been identified: approximately 50 feet along each east to west fence line where it crosses the 30 degree slope.

The proposed game farm is primarily located on a level ridge with excellent potential for fence construction. However, a portion of the northern and southern perimeter fence will traverse a moderately steep 30 degree slope. On the steeper slope segments, fence posts should be at least 9 feet above ground level to accommodate an extra strand of wire which must be supported with a supplemental stay every eight feet. This additional strand of wire should reduce the ability of deer to take advantage of an inclined slope to jump the fence.

(d) Ensure fence integrity throughout the game farm by removing dead or dying trees from either side of the perimeter fence and conducting frequent inspections.

The proposed game farm and adjacent areas contain numerous large coniferous trees capable of damaging the fence should a tree be blown over. Dead or dying trees should be removed from 10-20 feet on either side of the perimeter fence to reduce the probability of a tree falling on the fence during periods of high winds. Timely inspections following storm events will further reduce the potential for ingress or egress resulting from fallen trees.

(e) Adjustments in fence design or removal of snow may be necessary to maintain a minimum eight foot perimeter game-proof fence.

The proposed enclosure site is located at an elevation of about 2,900 feet and the expected snow levels during normal winters would be about 18 inches. However, during extreme winters, snow accumulations can reach 4 feet. The proposed game farm has only low potential for drifting during blizzards due to its sheltered location and the lack of adjacent large open areas. The development of significant drifts will be dependent upon storm characteristics and topography. Under these extreme conditions, the height of the fence above the compacted snow level may be sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access of supplemental feed. Domestic deer may also be able to leave the enclosure during periods of excessive snow cover. Removal of accumulated snow from the either side of the fence in drifted areas or increased fence height would be necessary during severe winters.

Recommended Mitigation Measures:

The following standard game farm management practices would help to minimize impact to free ranging wildlife species. Implementation of these practices is highly recommended and should be considered a form of mitigation.

- Store hay, feed, and salt away from exterior fences or enclose in buildings.
- Feed game farm animals at interior portions of the enclosure and not along the perimeter fence.
- Remove dead animals, excess fecal material, and waste feed from the game farm and deposit at an approved site not likely to be used by humans, domestic animals, and wild animals.
- Inspect exterior game farm fence on a regular basis and immediately after events likely to damage fence to ensure its integrity with respect to trees, frost-heaving, corrosion, burrowing animals, predators, and other game animals.
- If fence integrity or ingress/egress becomes a problem, adjust the fence as necessary, including double fencing, increased post support, replacing damaged posts, or increased fence height.
- Risk of disease epidemic or heavy parasite infections among domestic deer can be minimized by maintaining a reasonable domestic deer stocking rate in relation to the enclosure size, and management of manure in accordance with DEQ (1996) guidance.

REFERENCES:

Brown, Gerald. 1997. Wildlife Biologist, Montana Department Fish, Wildlife and Parks, personal communication with Dr. Craig Knowles, Fauna West Wildlife Consultants, November, 1997.

HUMAN ENVIRONMENT

6. NOISE EFFECTS Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Increases in existing noise levels?					Yes	6(a)
b. Exposure of people to severe or nuisance noise levels?						

AFFECTED ENVIRONMENT:

Little noise occurs in the general game farm area because of the sparse population and lack of other activities in this area that would generate noise.

PROPOSED ACTION:

6(a) The Proposed Action would result in a minor short-term increase in existing noise levels from fence construction, land clearing, and other activities conducted to develop the game farm. The nearest residents are located approximately ½-mile to the northwest and northeast from the proposed game farm site.

NO ACTION:

No impacts to existing noise levels are expected from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present or reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Due to the distance to the nearest residents and overall sparse population in the area, noise generated from the game farm operation should not cause a problem. If noise concerns are raised, mitigation measures can be employed.

Required Stipulations: None.

Recommended Mitigation Measures:

Impacts to neighbors from construction noise can be reduced by limiting noisy activities to daylight hours and completing construction as soon as possible.

HUMAN ENVIRONMENT

7. LAND USE Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of or interference with the productivity or profitability of the existing land use of an area?						
b. Conflict with a designated natural area or area of unusual scientific or educational importance?						
c. Conflict with any existing land use whose presence would constrain or potentially prohibit the Proposed Action?						
d. Conflict with any existing land use that would be adversely affected by the Proposed Action?						
e. Adverse effects on or relocation of residences?						

AFFECTED ENVIRONMENT:

The principal land use of the proposed game farm area and vicinity is hay and timber production (**Figure 2**). The area is not zoned for a specific use and is currently utilized by wild game.

PROPOSED ACTION:

The proposed game farm would be consistent with existing land uses. The use of the proposed game farm area for a white-tailed deer farm may increase the value of the land.

NO ACTION:

If the proposed game farm area is not developed, use of the site would likely continue for cattle pasture.

CUMULATIVE EFFECTS:

Land use described in the Proposed Action is consistent with existing land use in the vicinity of the proposed game farm area. Because no proposals or applications for future development in the vicinity of the proposed game farm are currently on file with Lincoln County, and no past or present activities have adversely affected the game farm area, no potential cumulative effects on land use from the Proposed Action and past, present and reasonably foreseeable actions to land use are anticipated.

COMMENTS:

Because impacts to land use are none to potentially positive, no mitigation measures are recommended.

HUMAN ENVIRONMENT

8. RISK/HEALTH HAZARDS Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Risk of dispersal of hazardous substances (including, but not limited to chemicals, pathogens, or radiation) in the event of an accident or other forms of disruption?						
b. Creation of any hazard or potential hazard to domestic livestock?					Yes	8(b)
c. Creation of any hazard or potential hazard to human health?					Yes	8(c)

PROPOSED ACTION:

8(b) Brucellosis and tuberculosis are potentially transmittable from domestic deer to cattle and cattle to wild ungulates. The risk of disease being passed from domestic deer to domestic livestock would be minimal if the fence integrity is maintained and appropriate mitigation measures are followed. The potential for disease transmission to domestic livestock from game farm animals is also mitigated through Department of Livestock disease testing requirements. All animals placed on this game farm would be required to be tested for tuberculosis at the time of import, purchase and/or transportation to the game farm. A test for brucellosis is required for all Cervids that are sold or moved within the state, and is required for all game farm animals imported into Montana. Each game farm is required to have an isolation pen (quarantine facility) on the game farm to isolate any animals that are imported or become ill. The state veterinarian can require additional testing and place herds under strict quarantine should problems arise.

8(c) If tuberculosis or brucellosis were to be transmitted from domestic deer to wild elk and deer, hunters field dressing wild elk and deer would be subject to some risk of infection. Veterinarians and meat cutters working with diseased game farm animals are at risk of becoming infected with brucellosis or tuberculosis. Risk to human health from diseased animals could be significant but routine brucellosis and tuberculosis testing requirements for game farm animals offer a measure of surveillance that minimizes that risk. Failure to comply with these requirements is grounds for license revocation.

NO ACTION:

The proposed game farm area would continue to be used to pasture cattle or sheep, used for hay production, and used to harvest timber.

CUMULATIVE EFFECTS:

No impact to human health would be expected to occur from past, present or reasonably foreseeable activities near the proposed game farm.

COMMENTS:

Required Stipulations: None.

Recommended Mitigation Measures:

The game farm mitigations listed in Section 5 (*Fish/Wildlife*) are applicable to this section, too. In addition, risk of disease epidemic or heavy parasite infections among domestic deer can be minimized by maintaining a reasonable domestic deer stocking rate in relation to the enclosure size, periodic removal of domestic deer manure from concentration areas, and development of a disease immunization and parasite treatment protocol as applicable to domestic deer.

Failure to certify that domestic white-tailed deer entering the enclosure are from Montana game farms genes would make any egress incident considerably more significant due to the risk of meningeal worm.

HUMAN ENVIRONMENT

9. COMMUNITY IMPACT Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of the location, distribution, density, or growth rate of the human population of an area?						
b. Alteration of the social structure of a community?						
c. Alteration of the level or distribution of employment or community or personal income?						
d. Changes in industrial or commercial activity?						
e. Changes in historic or traditional recreational use of an area?						
f. Changes in existing public benefits provided by affected wildlife populations and wildlife habitats (educational, cultural or historic)?						
g. Increased traffic hazards or effects on existing transportation facilities or patterns of movement of people and goods?						

AFFECTED ENVIRONMENT:

The proposed game farm would be located in a rural area adjacent to timber land and hay pasture. The nearest town to the proposed game farm site is Libby, Montana, located approximately 8.5 miles to the northeast (**Figure 1**).

PROPOSED ACTION:

No adverse impacts to the community are expected from the proposed game farm. No employees would be hired as a result of the Proposed Action. While the Proposed Action may increase the income level for the applicant and increase taxes paid to the county, these increases would be relatively minor with respect to the community.

NO ACTION:

No adverse impacts to the community would result from the No Action Alternative.

CUMULATIVE EFFECTS:

No adverse impacts to the community are expected to result from the Proposed Action and past, present and reasonably foreseeable activities in the vicinity of the proposed game farm.

COMMENTS:

No mitigation measures are recommended with respect to community impacts.

HUMAN ENVIRONMENT

10. PUBLIC SERVICES & TAXES Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. A need for new or altered government services (specifically an increased regulatory role for FWP and Dept. of Livestock)?					No	10(a)
b. A change in the local or state tax base and revenues?					No	10(b)
c. A need for new facilities or substantial alterations of any of the following utilities: electric power, natural gas, other fuel supply or distribution systems, or communications?						

PROPOSED ACTION:

10(a) FWP and DoL would be required to have an increased work load associated with the game farm for fence and animal inspections and monitoring. For the Proposed Action, the increase in use of agency resources is expected to cost the State of Montana $7,000 - $9,000 for the initial licensing process, and an additional $1,200 per year for monitoring and administrative activities.

10(b) Placement of deer would increase the annual tax contribution of the proposed game farm, with collected taxes going toward the county general fund and local school district and a per capita tax that goes to the DoL. According to the Lincoln County Assessor's Office, the tax rate for marketable deer changes annually but is estimated to be approximately $6 per head for game farm deer (Vincent 1997). According to DoL, the per capita tax is $12 per head for game farm animals compared to $1.20 per head for cattle (Schultz 1997).

NO ACTION:

No additional taxes would be collected from the applicant under the No Action Alternative. The applicant may continue to lease pasture for cattle grazing in the proposed game farm area.

CUMULATIVE EFFECTS:

No adverse cumulative effects to public services, taxes, and utilities are anticipated to result from the Proposed Action and past, present and reasonably foreseeable activities in the vicinity of the proposed game farm.

COMMENTS:

No mitigation measures are recommended with respect to public services, taxes, and utilities.

REFERENCES:

Vincent, Sheryl. 1997. Lincoln County Assessor. Personal communication with H. Kuder, Maxim Technologies, Inc. November, 1997.

Schultz, Luella. 1997. Department of Livestock, Animal Health Division. Memorandum to Alice Stanley, Maxim Technologies. October 27, 1997.

HUMAN ENVIRONMENT

11. AESTHETICS/RECREATION Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Alteration of any scenic vista or creation of an aesthetically offensive site or effect that is open to public view?						
b. Alteration of the aesthetic character of a community or neighborhood?						
c. Alteration of the quality or quantity of recreational/tourism opportunities and settings?						

AFFECTED ENVIRONMENT:

The game farm site is located a the sparsely populated area of Lincoln County. The property is generally surrounded on three sides by privately-owned land beyond which is public land managed by the U.S. Forest Service **(Figure 1).**

PROPOSED ACTION:

No adverse impacts to the public view, character of the neighborhood, or recreational opportunities in the area would result from the Proposed Action.

NO ACTION:

No adverse impacts to aesthetics or recreational opportunities in the area would result from the No Action Alternative.

CUMULATIVE EFFECTS:

No additional impacts from past, present and reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

No mitigation measures are recommended with respect to aesthetics and recreation.

HUMAN ENVIRONMENT

12. CULTURAL & HISTORICAL RESOURCES Would Proposed Action result in:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Destruction or alteration of any site, structure or object of prehistoric, historic, or paleontological importance?					Yes	12(a)
b. Physical change that would affect unique cultural values?						
c. Effects on existing religious or sacred uses of a site or area?						

AFFECTED ENVIRONMENT:

No historic sites are recorded on the proposed game farm based on a cultural resource file search by the State Historical Preservation Office (SHPO 1997).

PROPOSED ACTION:

12(a) According to SHPO (1997), because of the lack of previous inventory, the low topography of the area, and that cultural properties are known to exist in the region that there is a very high likelihood for this project to affect unknown or unrecorded cultural properties.

NO ACTION:

No impacts to unknown cultural resources are expected from the No Action Alternative unless other disturbances occur within the property.

CUMULATIVE EFFECTS:

No additional impacts from past, present and reasonably foreseeable activities near the proposed game farm are anticipated.

COMMENTS:

Required Stipulations: None.

Recommended Mitigation Measures:

If archeological artifacts are observed during construction of the game farm fence or from other activities, work should stop in the area and the discovery reported to:

Montana Historical Society
Historic Preservation Office
1410 8th Avenue; P.O. Box 201202
Helena, Montana 59620
(406) 444-7715

If work stoppage in the area containing observed artifacts is not possible, record the location and position of each object, take photographs, and preserve the artifact(s).

REFERENCES:

Montana State Historic Preservation Office (SHPO), 1997. Letter from Phillip Melton (SHPO, Helena, MT) to Daphne Digrindakis (Maxim Technologies, Inc.), dated November 17, 1997.

SUMMARY

13. SUMMARY Would the Proposed Action, considered as a whole:	POTENTIAL IMPACT				CAN IMPACT BE MITIGATED	COMMENT INDEX
	UNKNOWN	NONE	MINOR	SIGNIFICANT		
a. Have impacts that are individually limited, but cumulatively considerable? (A project or program may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)						
b. Involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?					Yes	13(b)
c. Potentially conflict with the substantive requirements or any local, state, or federal law, regulation, standard or formal plan?						
d. Establish a precedent or likelihood that future actions with significant environmental impacts would be proposed?						13(d)
e. Generate substantial debate or controversy about the nature of the impacts that would be created?					Yes	13(d)

PROPOSED ACTION:

13(b) There is an undetermined potential of domestic deer carrying or becoming infected with a contagious wildlife disease or parasite such as tuberculosis, chronic wasting disease, or meningeal worm and then coming in contact (through-the-fence, nose-to-nose, nose-to-soil, or ingress/egress) with wild deer, elk, or other wildlife. Release of a contagious disease in the wild could severely impact native wildlife populations. It is also possible that disease and parasites carried by wild deer could be introduced to domestic deer with equally severe impacts. Ingress of wild elk, deer, and moose would likely result in the destruction of the trespassing animals.

White-tailed deer are a common host to the meningeal worm over much of their range in eastern and central United States and Canada. The meningeal worm is a clinically silent nematode in white-tailed deer, but when infective larvae are ingested by moose or elk, they inflict neurological damage that eventually leads to the death of the host animal. Meningeal worm has been shown to substantially reduce moose populations in areas where infected white-tailed deer numbers are increasing. This disease is believed to be spreading westward but has not appeared in Montana. Consequently, it is extremely important that white-tailed deer to be stocked at the proposed game farm which originate from Montana game farms that are known to contain only western white-tailed deer.

Spread of a contagious wildlife disease may directly or indirectly (depending on the nature of the disease) affect the human environment by reducing the number of wild deer and elk available for hunting, or exposing hunters to diseases that are contagious to humans as well.

13(d) The nature of impacts to wildlife from game farms is currently under debate in Montana and other states. The following issues are of the greatest concern:

- Disease transmission from game farm animals to wildlife is possible if the game farm animals are diseased and have an opportunity to come into contact with wild elk or deer.
- Hybridization of Montana's game species resulting from the ingress/egress of animals on game farms.

- Potential for wild animals to ingress into the game farm. Ingressing elk and deer are generally killed, typically by FWP wardens, to prevent potential disease transmittal. Ingressing mountain lions and black bears may be immobilized and removed.

- Theft of wild animals for financial gain on game farms.

These issues are particularly controversial when game farms block migration routes or consume significant areas of land historically utilized by wild game. Inadequate perimeter fencing and fence monitoring on the part of the game farm operator can also lead to ingress and egress events and nose-to-nose contact between wild game and game farm animals. Because the proposed Fork Horn White Tail Deer Ranch game farm area is too small to effectively block big game migration routes or consume a significant portion of land utilized by wild game, the controversial nature of the Proposed Action is minor.

SUMMARY EVALUATION OF SIGNIFICANCE CRITERIA

a. Does the Proposed Action have impacts that are individually minor, but cumulatively considerable? (A project may result in impacts on two or more separate resources which create a significant effect when considered together or in total.)

No, significant cumulative impacts are not anticipated for the game farm.

b. Does the Proposed Action involve potential risks or adverse effects which are uncertain but extremely hazardous if they were to occur?

Yes. An unlikely, but extremely hazardous event should it occur, would be the spread of a disease or parasite from domestic deer to wild deer or elk. The risk of this event occurring can be reduced by following the mitigations listed in Sections 3, 5 and 8 (Water Resources, Fish/Wildlife, and Risk/Health Hazards, respectively).

c. Description and analysis of reasonable alternatives (including the No Action Alternative) to the Proposed Action whenever alternatives are reasonably available and prudent to consider and a discussion of how the alternatives would be implemented:

No Action Alternative: The No Action Alternative would avoid all potential impacts listed above. This site would likely be grazed by domestic cattle, horses, or other livestock should the No Action Alternative be selected. The No Action Alternative probably would not result in exclusion of wildlife from this site but there is a chance that the site may be converted to agricultural production.

d. Evaluation and listing of mitigation, stipulation, or other control measures enforceable by the agency or another government agency:

This section provides an analysis of impacts to private property by proposed restrictions or stipulations in this EA as required under 75-1-201, MCA, and the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The analysis provided in this EA is conducted in accordance with implementation guidance issued by the Montana Legislative Services Division (EQC 1996). A completed checklist designed to assist state agencies in identifying and evaluating proposed agency actions, such as imposed stipulations, that may result in the taking or damaging of private property, is included in **Appendix A.** Mitigation measures described in this section address both minor and significant impacts. FWP would require stipulations to mitigate all potentially significant impacts from the Proposed Action. Most potential minor impacts from the Proposed Action are addressed as mitigation measures that are strongly recommended, but not required.

Required Stipulation #1 and #2

Report the ingress of any wild game animals and predators (i.e., bear, lion, and coyote) or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress occurred.

Provide a plan to FWP demonstrating the capacity to conduct regular inspections and to respond on a timely basis to occurrence of ingress and egress.

Restriction on Private Property Use from Stipulation #1 and #2 - This stipulation restricts the use of private property by effectively requiring that the proposed game farm be monitored at least daily for ingress or egress events. The stipulation is consistent with the current FWP requirement to report egress events immediately [ARM 12.6.1517(2)].

Alternatives to Stipulation #1 and #2 - *Do not report ingress and egress events to FWP immediately.*

This stipulation would not adequately address the increased risk to wildlife health. Ingressing wild animals must be detected immediately to prevent contact with wild game after contact with game farm animals.

Benefits from Imposing Stipulation #1 and #2- This stipulation is imposed to mitigate predicted risk to wildlife health posed by the proposed game farm. Information provided by the stipulation would help the applicant and FWP to address ingress and egress incidents and to minimize contact between wild and domestic animals. This stipulation, in addition to existing FWP fencing and wildlife protection requirements, would effectively reduce the risk to wildlife health.

Types of Expenditures Stipulation #1 and #2 Would Require - The stipulation to require immediate notice of ingress and egress events would not impose any additional expenditures beyond those necessary to report egress events in accordance with ARM 12.6.1517(2).

Stipulation #1 and #2's Effect on Property Values - None

Required Stipulation #3

Develop a fence design that will prohibit ingress/egress throughout the game farm, particularly at locations where the perimeter fence crosses steep slopes.

Restriction on Private Property Use from Stipulation #3 - This stipulation does not restrict the use of private property.

Alternatives to Stipulation #3 - *Do not develop a fence design that will prohibit ingress/egress where the perimeter fence crosses steep slopes.*

This stipulation would not adequately address the requirement for game-proof fencing. If perimeter fencing is not properly installed across the steep slopes, ingress and egress activities would be facilitated.

Benefits from Imposing Stipulation #3 - This stipulation is imposed to mitigate predicted risk to wildlife health posed by a perimeter fence which is not game proof due to steep topography. Risk to wildlife health from contact between game farm animals and wild game is described above under the first stipulation; report ingress/egress incidents to FWP.

Types of Expenditures Stipulation #3 Would Require - The stipulation would require expenditures of approximately $1,500 to construct 9-foot sections of fencing in areas where the perimeter fence crosses steep slopes (i.e., north and south areas).

Stipulation #3's Effect on Property Values - None

Required Stipulation #4

Ensure fence integrity throughout the game farm by removing trees from 10-20 feet on either side of the perimeter fence.

Restriction on Private Property Use from Stipulation #4 - This stipulation restricts the use of private property by effectively requiring that trees be removed from the proposed game farm. The stipulation is consistent with the current FWP requirement to provide game proof fencing ARM 12.6.1503A.

Alternatives to Stipulation #4 - *Do not remove trees adjacent to the perimeter fence.*

This stipulation would not adequately address the requirement for game-proof fencing. If perimeter fencing is not maintained ingress and egress activities would be facilitated.

Benefits from Imposing Stipulation #4 - This stipulation is imposed to mitigate predicted risk to wildlife health posed by a non-game proof fence which has been compromised by fallen trees. Risk to wildlife health from contact between game farm animals and wild game is described above under the first stipulation; report ingress/egress activities to FWP.

Types of Expenditures Stipulation #4 Would Require - The stipulation to require removal of trees would not impose any additional expenditures beyond the time necessary to perform these activities assuming the applicant has access to the necessary tools required.

Stipulation #4's Effect on Property Values - None

Required Stipulation #5

Maintain fence height throughout the game farm during severe winters to prohibit ingress/egress.

Restriction on Private Property Use from Stipulation #5 - This stipulation restricts the use of private property by effectively requiring that snow removal be performed at the proposed game farm during extreme winters. The stipulation is consistent with the current FWP requirement to provide game proof fencing ARM 12.6.1503A.

Alternatives to Stipulation #5 - *Do not remove snow from adjacent to perimeter fencing during extreme winters.*

This stipulation would not adequately address the requirement for game-proof fencing. Extreme snow depths on either side of the perimeter fence would facilitate ingress/egress.

Benefits from Imposing Stipulation #5 - This stipulation is imposed to mitigate predicted risk to wildlife health posed by extreme snow depths effectively making the perimeter fence non-game proof. Risk to wildlife health from contact between game farm animals and wild game is described above under the first stipulation; report ingress/egress activities to FWP.

Types of Expenditures Stipulation #5 Would Require - The stipulation to require snow removal would not impose any additional expenditures beyond the time necessary to perform this activity assuming the applicant has access to the equipment required.

Stipulation #5's Effect on Property Values - None

PART III. NARRATIVE EVALUATION AND COMMENT

Wildlife use of the area and potential for through-the-fence contact with game farm animals (consider year-around use, traditional seasonal habitat use, and location of travel routes and migration corridors).

Through the fence contact: The proposed game farm is located within an area used by wild white-tailed deer, mule deer, elk, and moose on at least a seasonal basis. Wild deer may be attracted to the proposed game farm area by domestic deer. These wild deer intermingle with other white-tailed deer and mule deer that utilize the Libby Creek bottomlands and adjacent mountain ranges. Transmission of diseases or parasites to wild deer may also spread to wild elk or moose and would be a significant event. Nose-to-nose contact is most likely to occur between wild and domestic deer and unlikely to occur between domestic deer and wild elk or moose. In addition, wild deer may be attracted to domestic deer during the rut. Transmission of disease or parasites may occur during nose-to-nose contact, nose-to-body contact, and by contacting vegetation and feces along the fence line. Disease transmission may occur from wild ungulates to domestic deer and from domestic deer to wild ungulates. Diseases such as tuberculosis are highly contagious and can be easily transmitted between domestic and wild deer. Tuberculosis can also be transmitted to humans and is a serious health risk.

White-tailed deer are a common host to the meningeal worm (*Parelaphostrongylus tenuis*) over much of their range in eastern and central United States and Canada. The meningeal worm is a clinically silent nematode in white-tailed deer, but when infective larvae are ingested by moose or elk, they inflict neurological damage that eventually leads to the death of the host animal. Meningeal worm has been shown to substantially reduce moose populations in areas where infected white-tailed deer numbers are increasing. This disease is believed to be spreading westward but has not appeared in Montana. Consequently, it is extremely important that white-tailed deer to be stocked at the proposed game farm which originate from Montana game farms that are known to contain only western white-tailed deer.

Risk of disease transmission can be reduced by maintaining the integrity of the enclosure fence, by maintaining a healthy domestic white-tailed deer population, and by following the above listed mitigation recommendations. If the game farm is managed properly, the risk of disease transmission from domestic deer to wild ungulates would likely be minimal.

Potential for escape of game farm animals or ingress of wildlife (consider site-specific factors that could reduce the effectiveness of perimeter fences built to standards outlined in Rule 12.6.1503A, including steepness of terrain, winter snow depths/drifting, susceptibility of fences to flood damage, etc.).

Fence integrity: The proposed fence will consist of 8-foot high, 6-inch mesh, high-tensile big game fencing; supported by 12-foot long, 3-inch diameter steel pipe set 3.5 feet into the soil and spaced at 18-foot intervals. Exterior gates will consist of two 4 by 12 feet heavy duty steel livestock gates mounted one atop the other with each gate being faced with 6 inch mesh hog panels. The proposed game farm is primarily located on a level ridge with excellent potential for fence construction. However, a portion of the northern and southern perimeter fence will traverse a moderately steep 30 degree slope. On the steeper slope segments, fence posts should be at least 9 feet above ground level to accommodate an extra strand of wire. This additional strand should negate the ability of deer to take advantage of an inclined slope to jump the fence. The east boundary fence is set at a sufficient distance from the base of this slope to prevent deer from taking advantage of the slope to jump the fence. The proposed game farm and adjacent areas contain numerous large coniferous trees capable of damaging the fence should a tree be blown over. Tree removal from 10-20 feet on either side of the perimeter fence would reduce the probability of a tree falling on the fence during periods of high winds. The proposed game farm does not contain any stream or other surface water drainage, and flood and ice damage to the exterior fence is not anticipated.

The proposed enclosure site is located at an elevation of about 2,900 feet and the expected snow levels during normal winters would be about 18 inches. However, during extreme winters, snow accumulations can reach 4 feet. The proposed game farm has only low potential for drifting during blizzards due to its sheltered location and the lack of adjacent large open areas. The development of significant drifts will be dependent upon storm

characteristics and topography. Under these extreme conditions, the height of the fence above compacted snow level may be sufficiently reduced to permit ingress of wild ungulates into the enclosure to gain access of supplemental feed. Domestic deer may also be able to leave the enclosure during periods of excessive snow cover. Although significant numbers of wild deer and elk are not expected in this area during extreme winters, some transient individuals are expected. Consequently, removal of accumulated snow from the either side of the fence in drifted areas may be necessary during severe winters.

Proportion (%) of the total habitat area currently used by wildlife that would be enclosed or otherwise impacted.

The proposed game farm will exclude wild deer, elk, and moose from only a minor portion (< 1%) of the available wintering habitat. Transitional and summer range for wild deer, elk and moose is even more abundant and the enclosure of 5.5 acres of deer, elk and moose habitat will not seriously effect wild deer, elk and moose population viability in this area.

PART IV. EA CONCLUSION

1. **Based on the significance criteria evaluated in this EA, is an EIS required? YES / NO**

   No. The appropriate level of analysis for the Proposed Action is a mitigated EA because:

   - all impacts of the Proposed Action have been accurately identified in the EA; and
   - all identified significant impacts would be mitigated to minor or none.

2. **Describe the level of public involvement for this project if any and, given the complexity and the seriousness of the environmental issues associated with the Proposed Action, is the level of public involvement appropriate under the circumstances?**

   Upon completion of the Draft EA, a notice is sent to adjoining landowners, local newspapers, and other potentially affected interests, explaining the project and asking for input during a 21-day comment period which extends from December 31, 1997 until 5 pm January 20, 1998. The Draft EA is also available to the public from the FWP office in Kalispell at the address and phone listed below and in the *Introduction* section of this EA, and through the State Bulletin Board System during the public comment period.

3. **Duration of comment period if any:** 26 days

4. **Name, title, address and phone number of the Person(s) Responsible for Preparing the EA:**

Montana Fish, Wildlife & Parks

Jerry Brown, Wildlife Biologist
FWP Region 1
4777 Bobtail Road
Libby, Montana 59923
Phone (406) 293-7905

Chris Ralph, Game Warden
FWP Region 1
1513 Lolo Avenue
Libby, Montana 59923
Phone (406) 293-3381

Karen Zackheim, FWP Game Farm Coordinator
Enforcement Division
1420 E. Sixth Avenue
Helena, MT 59620

Maxim Technologies, Inc.

Daphne Digrindakis, Project Manager
Doug Rogness, Hydrologist
Mike Cormier, Soil Scientist
James Cosgrove, GIS and Graphics
Don May, Field Technician
Holly Kuder, Data Acquisition

FaunaWest Wildlife Consultants

Craig Knowles, Wildlife Biologist

APPENDIX A

PRIVATE PROPERTY ASSESSMENT CHECKLIST

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

The 54th Legislature enacted the Private Property Assessment Act, Chapter 462, Laws of Montana (1995). The intent of the legislation is to establish an orderly and consistent process by which state agencies evaluate their proposed actions under the "Takings Clauses" of the United States and Montana Constitutions. The Takings Clause of the Fifth Amendment of the United States Constitution provides: "nor shall private property be taken for public use, without just compensation." Similarly, Article II, Section 29 of the Montana Constitution provides: "Private property shall not be taken or damaged for public use without just compensation..."

The Private Property Assessment Act applies to proposed agency actions pertaining to land or water management or to some other environmental matter that, if adopted and enforced without compensation, would constitute a deprivation of private property in violation of the United States or Montana Constitutions.

The Montana State Attorney General's Office has developed guidelines for use by state agency to assess the impact of a proposed agency action on private property. The assessment process includes a careful review of all issues identified in the Attorney General's guidance document (Montana Department of Justice 1997). If the use of the guidelines and checklist indicates that a proposed agency action has taking or damaging implications, the agency must prepare an impact assessment in accordance with Section 5 of the Private Property Assessment Act. For the purposes of this EA, the questions on this checklist refer to the following required stipulation(s):

(a) Report the ingress of any wild game animals or egress of domestic deer to FWP immediately. The report must state the probable reason why or how ingress/egress was achieved.

(b) Provide a plan to FWP demonstrating the capacity to conduct regular inspections and to respond on a timely basis to occurrence of ingress and egress.

(c) Increase fence height to nine feet to prohibit ingress/egress in locations where the perimeter fence crosses steep (30 degree) slopes. Three specific areas of the perimeter fence have been identified: approximately 50 feet along each east to west fence line where it crosses the 30 degree slope.

(d) Ensure fence integrity throughout the game farm by removing dead or dying trees from either side of the perimeter fence and conducting frequent inspections.

(e) Adjustments in fence design or removal of snow may be necessary to maintain a minimum eight foot perimeter game-proof fence.

PRIVATE PROPERTY ASSESSMENT ACT CHECKLIST

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PRIVATE PROPERTY ASSESSMENT ACT?

YES	NO		
___	X	1.	Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
___	X	2.	Does the action result in either a permanent or indefinite physical occupation of private property?
___	X	3.	Does the action deprive the owner of all economically viable uses of the property?
___	X	4.	Does the action deny a fundamental attribute of ownership?
___	X	5.	Does the action require a property owner to dedicate a portion of property or to grant an easement? [If the answer is **NO**, skip questions 5a and 5b and continue with question 6.]
___	___	5a.	Is there a reasonable, specific connection between the government requirement and legitimate state interests?
___	___	5b.	Is the government requirement roughly proportional to the impact of the proposed use of the property?
___	X	6.	Does the action have a severe impact on the value of the property?
___	X	7.	Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? [If the answer is **NO**, do not answer questions 7a-7c.]

DOES THE PROPOSED AGENCY ACTION HAVE TAKINGS IMPLICATIONS UNDER THE PRIVATE PROPERTY ASSESSMENT ACT?

YES	NO		
____	____	7a.	Is the impact of government action direct, peculiar, and significant?
____	____	7b.	Has government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?
____	____	7c.	Has government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?

Taking or damaging implications exist if **YES** is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if **NO** is checked in response to questions 5a or 5b.

If taking or damaging implications exist, the agency must comply with § 5 of the Private Property Assessment Act, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.